



CLEAN AIR ACT DEVELOPMENTS & THE WIND INDUSTRY

WPA STATE SUMMIT 2005

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OVERVIEW

- **Emission Trading Regulations**
- **State Implementation Plans**

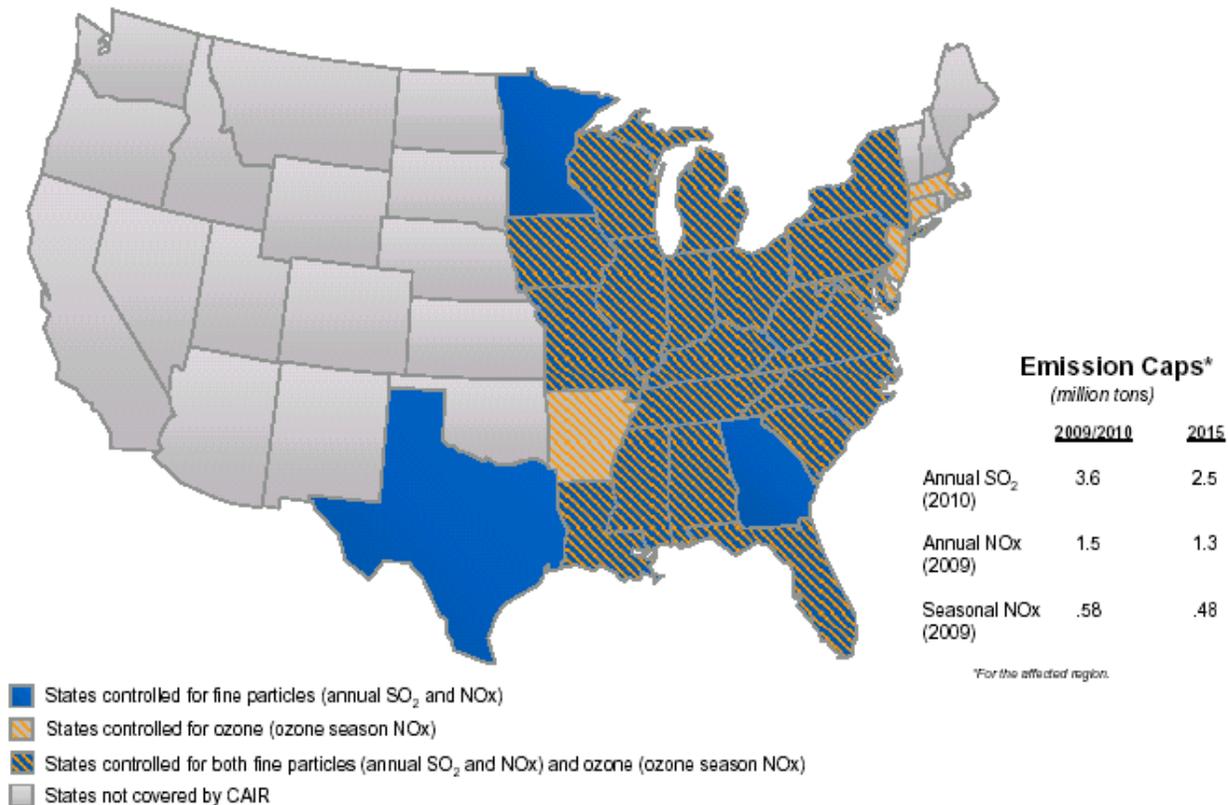


U.S. EMISSION TRADING MARKETS

- Existing EPA Examples
 - SO₂ Trading (Acid Rain Program)
 - NO_x Trading
- New EPA Programs
 - Clean Air Interstate Rule (SO₂ and NO_x) – 2005 final rule applies to 28 eastern States and the District of Columbia
 - Mercury Rule – 2005 final rule applies to all States

EPA CLEAN AIR INTERSTATE RULE

CAIR: Affected Region and Emission Caps





EMISSIONS TRADING BASICS

- **Regulator – EPA or State:**
 - Set an emission cap (in tons) for particular pollutant (e.g., SO₂, NO_x) for a specific sector (e.g. electric generation)
 - Distribute allowances that permit emissions of a specified amount of a pollutant in a particular year/season
- **Fossil Fuel Generators** meet requirements by:
 - Reducing emissions;
 - Buying or selling allowances.



EMISSIONS TRADING AND WIND ENERGY

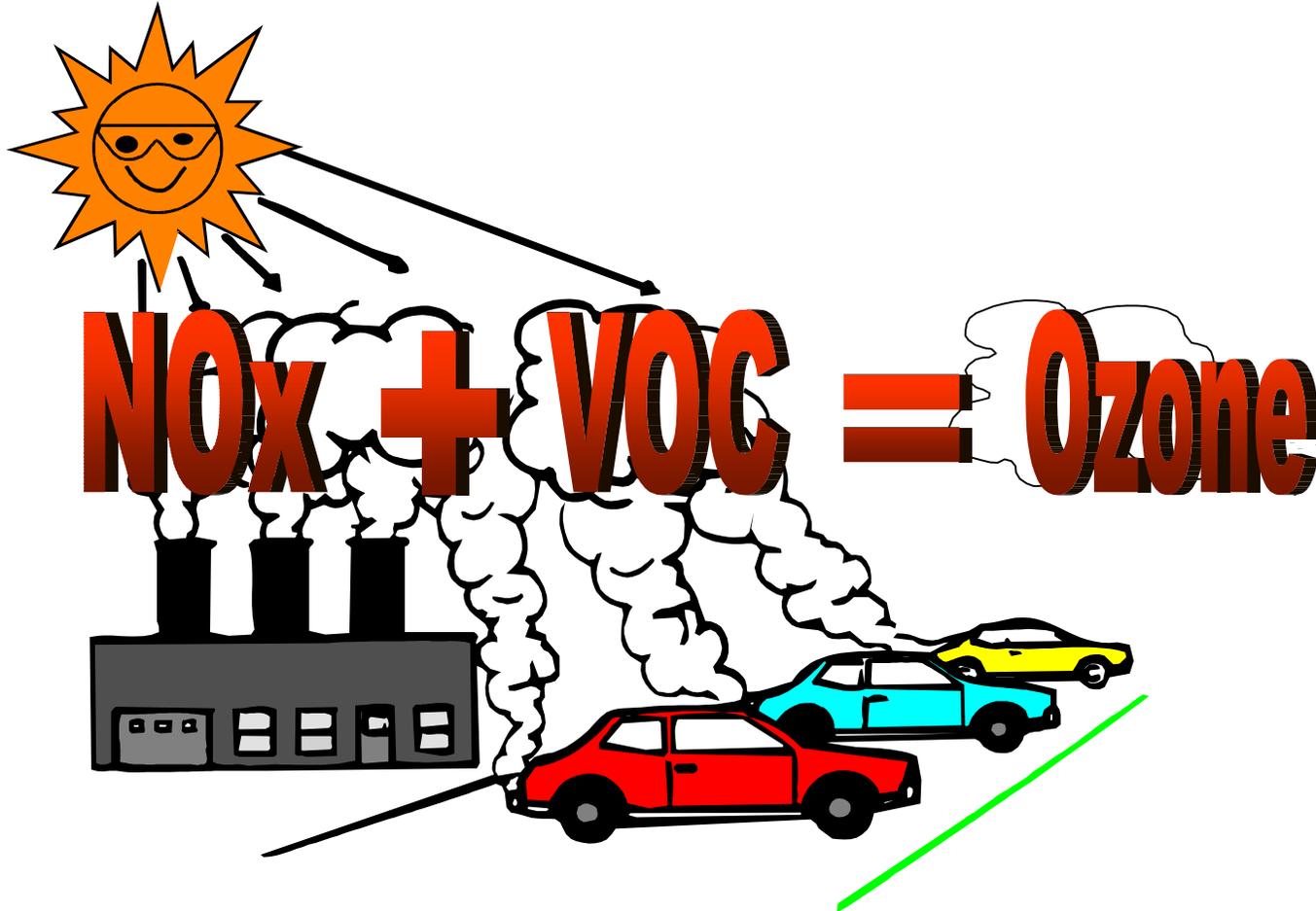
- **Good News for Wind Energy and Cleaner Air**
 - Tighter emission caps increase the costs of fossil-fuel generation;
 - Total emissions should not exceed the emission cap; and
 - Court challenge initiated on final mercury rule and uncertainty and potential for increased controls adversely impacts fossil fuel generation.
- **Inconvenient News for Wind Energy in “Cap & Trade” States**
 - Total emissions are unlikely to be reduced below the cap even if a new wind farm comes on line;
 - Generally, the only way to reduce emissions is to retire allowances and in many States, allowances are not allocated to wind energy generators.



EPA's NO_x & MERCURY TRADING RULES & WIND ENERGY

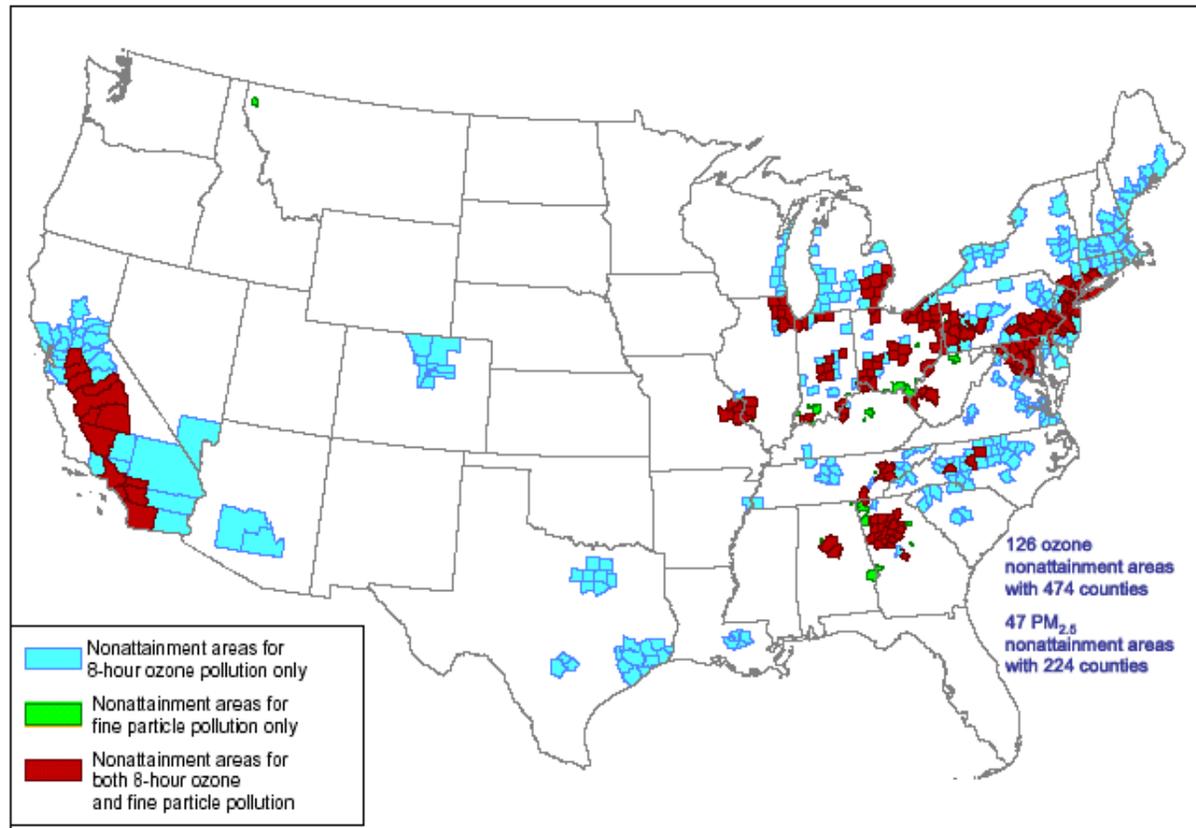
- **Model rule language does not provide allowance allocations to renewable energy;**
- **However, states authorized to issue their own implementing rules now and in future with various options, including:**
 - **Renewable energy set-aside**
 - **Output-based allowances to new sources**

THE OZONE FORMATION CYCLE



NONATTAINMENT AREAS

Areas Designated Nonattainment for Ozone and PM_{2.5} NAAQS in 2004



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SIPs AS MARKET DRIVERS

- **Window of opportunity created by 8-hour ozone standard**
- **State/local governments choose from wide range of air pollution control measures**
- **State/municipalities interested in wind energy as option**



SIPs AS MARKET DRIVERS

- State and local governments are a key market for wind power
 - Increasing market demand is the “linchpin” for wind power development
 - Wind plants are financed based on the future revenue stream from wind purchases
 - Municipalities and states often serve as important “anchor” customers (e.g., City of Chicago)



MD CASE STUDY

- Montgomery County, MD led buying group
- 38.4 million kWh/year – largest municipal wind purchase in U.S. history
- Dec. 2004 EPA proposed approval is first-ever for renewable energy purchase as a SIP control measure



EPA SIP GUIDANCE

- Issued August 5, 2004
www.epa.gov/ttn/oarpg/t1/memoranda/ereseerem_gd.pdf
- Focuses on steps necessary for SIP credit for nitrogen oxide (NO_x) emission reductions
- Retirement of allowances generally necessary for SIP credit in States with NO_x emissions trading regulations
- Complemented by DOE/EPA Clean Energy/Air Quality Integration Initiative

MODEL SIP DOCUMENTATION FOR WIND PURCHASE

- Model documentation to assist in replication of MD wind purchase
- NREL and Wind Powering America Program funded effort
- <http://www.eere.energy.gov/windandhydro/windpoweringamerica/policy.asp>



OTHER MUNICIPALITIES

- Other wind/renewable energy commitments spurred by potential SIP credit for NO_x reductions
 - Fairfax County, Virginia
 - Grand Rapids, Michigan
- Need to evaluate and implement mechanisms for retirement of NO_x allowances



SUPPLEMENTAL ENVIRONMENTAL PROJECTS (SEPs)

- **Tool to incorporate wind energy purchases or projects in settlement agreements for enforcement of Clean Air Act violations;**
- **National applicability**
- **Example – First Energy/Ohio Edison commitment to wind purchases in March 2005 settlement agreement;**
- **EPA issued SEP Toolkit in Jan. 2005**